VINOKUROV, S. N.

28481

Metod prognoza nachala otrozhdeniya vryedinykh saranchyevykh sibiri. Trudy alt. Krayev. Stantsii zashchity rastyenii, No. 1, 1949, S. 5-34 - Bibliogr: 19 Nazv

SO: LETOPIS No. 34

VINOKUROV, A. N.

28529

Materialy Po Izuchyeniyu Yablonnoy Plodozhorki Na Altaye Po Otchyetam D. G. Bassyelb Trudy Alt. Krayev Stantsii Zashchity Rastyeniy, No. 1, 1949, S. 173-84 Urozhay, Nakoplyeniye I Vykhod Kauchuka V Kok- Sagyzye Dok Lady Adad Nauk Ukr.SSR, 1949, No. 3, S.51-58- Na UKR Yaz- Ryezyumye Na Rus. Yaz Bibliogr: 8 Nazv

SO: LETOPIS NO. 38

VINOKUROV, I.D.

Tool for trimming bossages in gypsum wall facing slabs with chamfered edges. Rats. i izobr. predl. v stroi. no.106:29-30 '54. (MLRA 8:10)

(Walls)

VINOKUROV, I.

Peshkom na polius [To the North Pole by foot]. Moskva, Detgiz, 1952. 96 p

SO: Monthly List of Russian Accessions, Vol 6 No 8 November 1953

VINOKUROV, I.

[To the Pole on foot] Peshkom na polius. Moskva [etc.] Detgiz, 1952. 94 p.
(MLRA 6:9)

(Sedov, Georgii Yakovlevich, 1877-1914) (Arctic regions)

VINOKUROV, Iosif Abovich; GORYUNOV, Nikolay Nikolayevich, kand. fiz.-mat. nauk; KLEYMAN, Arkadiy Yur'yevich; SOKOLOV, Aleksandr Alekseyevich; YUNIUTIN, V.V., red.

[Handbook on semiconductor diodes and transistors] Spravochnik po poluprovodnikovym diodam i tranzistoram. Moskva, Energiia, 1964. 526 p. (MIRA 18:1)

[redacted], G. M.

28482

Obyesplozhivaniye saranchyevykh pri pomoshchi mikrobov. Trudy alt. Krayev. Stantsii zashchity rastyeniy, No. 1, 1949, S. 35-51

SO: LETOPIS No. 34

VINOKUROV, I.

Peshkom na Polyus (Afoot on the Pole) Risunki A. Lur'ye. Moskva, Detgiz, 1952. 94 p. illus.

VINOKUROV, I.N.

Compatibility of penicillin with other specific media in the treatment of syphilis. Vest.vener. No.1:21-22 Jan-Feb 51. (CLML 20:6)

1. Of the Department of Syphilology(Head--Prof. I.D.Perkel') and of the Microbiological Laboratory (Head--Docent M.M. Izrael'son), Odessa Dermato-Venereological Institute imeni Ye.S.Glavche (Director B.I.Shpolyanskiy).

YAKUNER, S. A.; VINOKUROV, I. N.

Lanolin-oil penicillin suspension. Vest. vener., Moskva no.4: 44 July-Aug 51. (CIML 21:1)

1. Senior Scientific Associate; Yakuner; Departmental Physician Vinokurov. 2. Of the Syphilological Department (Head -- Prof. I. D. Perkel'), Odessa Skin-Venereological Institute imeni Ye. S. Glavche (Director -- B. I. Shpolyanskiy).

VINOKUROV, I. N.

Penicillin concentration in the blood following administration with autohemotherapy in syphilis. Vest. vener., Moskva no.2:55 Mar-Apr 1952. (CLML 22:2)

1. Of Odessa Skin-Venereological Institute imeni Ye. S. Glavche.

KHARCHENKO, A. M.; VINOKUROV, I. N.

Functional and histomorphological changes in the skin of rabbits following applications of radioactive phosphorus. Vest. ven. i derm. no.5:14-18 S-O '55 (MLRA 9:1)

1. Iz kozhnogo otdela (zav. G. I. Landa) Odesskogo nauchno-issledovatel'skogo kozhno-venerologicheskogo instituta imeni Ye. S. Glavche (dir.-dotsent S. I. Matuskov).

(PHOSPHORUS, radioactive
eff. on physiol. & histomorphol. of skin in rabbits)
(SKIN,
physiol. & histomorphol., eff. of radioactive phosphorus in rabbits)

VINOKUROV, I.M., starshiy nauchnyy sotrudnik; KUKSENKO, O.I., nauchnyy sotrudnik

Pathomorphological changes in the internal organs of rabbits infected by syphilis and treated by penicillin and tissue extracts. Vest.ven. i derm. 30 no.2:49 Mr-Ap '56. (MIRA 9:7)

1. Iz Odesskogo kozhno-venerologicheskogo instituta.
(SYPHILIS IN ANIMALS)

VINOKUROV, I.N., starshiy nauchnyy sotrudnik

Functional and histomorphological changes in the skin of rabbits with experimental dermatitis after influencing the central nervous system in several ways. Vest.ven. i derm. 30 no.5:16-18 S-O '56. (MLRA 9:12)

1. Iz kozhnogo otdela (zav. G.I.Landa) Odesskogo nauchno-issledovatel'skogo kozhnovenerologicheskogo instituta imeni Ye.S.Glavche (dir. - dotsent S.I.Matusov)

(DERMATITIS, exper.
eff. of funct. changes in cerebral cortex on skin in rabbits)
(CEREBRAL CORTEX, physiol.
eff. of funct. changes on skin in exper. dermatitis in rabbits)

VINOKUROV, I.N., kand. med. nauk; LIBERMAN, M.I.

Group incidence of alopecia areata. Vest. derm. i ven. no.1: 82-83 '65. (MIRA 18:10)

1. Klinika kozhno-venericheskikh bolezney (zav. kafedroy - prof. M.M. Zheltakov) II Moskovskogo meditsinskogo instituta imeni Pirogova i Moskovskiy gorodskoy kozhno-venerologicheskiy dispanser (glavnyy vrach A.S. Obukhova).

VINOKUROV, I.N., kand. med. nauk (Moskva)

Effect of the general action of chloral hydrate and caffeine on the functional state and histomorphology of the skin. Vest. derm. i ven. no.3:9-13 '65. (MIRA 18:11)

ZHELTAKOV, M. M., prof.; [illegible], I.N., kand. med. nauk

Peucedanin treatment of patients with alopecia areata and a. totalis. Sov. med. 26 no.8:126-129 Ag '65. (MIRA 18:9)

1. Kafedra kozhnykh bolezney (zav. - prof. M.M.Zheltakov) II Moskovskogo meditsinskogo instituta imeni Pirogova.

ZHELTAKOV, M.M., prof., VINOKUROV, I.N., kand. med. nauk

Experience with external use of sinestrol in the treatment of alopecia areata in women. Vest. derm. i ven. 38 no.8:46-50 Ag '64. (MIRA 18:8)

1. Kafedra kozhnykh i venericheskikh bolezney (zav.- prof. M.M. Zheltakov) II Moskovskogo meditsinskogo instituta imeni Pirogova.

ZHELTAKOV, M.M., prof.; VINOKUROV, I.N., kand.med.nauk; GUSAROVA, A.S.

Experience with the treatment of seborrhoic alopecia with epilin plaster. Vest. derm. i ven. 38 no.4:40-43 Ap '64.

(MIRA 18:4)

1. Klinika kozhno-venericheskikh bolezney (zav. - prof. M.M. Zheltakov) II Moskovskogo meditsinskogo instituta imeni Pirogova i Instituta vrachebnoy kosmetiki (dir. A.F.Akhabadze) Ministerstva zdravookhraneniya RSFSR.

VINOKUROV, I.N., kand.med.nauk

New Soviet drugs, ammifurin and beroxan, for the treatment of alopecia areata and vitiligo. Vest. derm. i ven. 37 no. 10: 10-14 O '63. (MIRA 17:9)

1. Klinika kozknykh bolezney (zav. - prof. M.M.Zheltakov) II Moskovskogo gosudarstvennogo meditsinskogo instituta imeni Pirogova (dir. - dotsent M.G.Sirotkina).

VINOKUROV, I.N.; REZNIKOV, Ye.K.; CHERNOVA, P.N.

Meladinine therapy of disseminated forms of vitiligo, and alopecia areata and universalis. Vest.derm. i ven. 37 no.1: 42-46 Ja'63. (MIRA 16:10)

1. Iz kafedry kozhnykh i venericheskikh bolezney II Moskovskogo meditsinskogo instituta imeni N.I.Pirogova (zav. prof. M.M.Zheltakov) i Moskovskogo gorodskogo kozhno-venerologicheskogo dispansera (glavnyy vrach A.S.Obukhova).
(VITILIGO) (BALDNESS) (XANTHOTOXIN)
(IMPERATORIN)

VINOKUROV, I.N.

Functional and morphological changes in the skin of castrated rabbits with inhibition of the cerebral cortex. Vest.derm.i ven. 33 no.6:38-42 N-D '59. (MIRA 13:12)
(CEREBRAL CORTEX) (CASTRATION) (SKIN)

ZHELTAKOV, M.M., prof.; VINOKUROV, I.N., assistent; SKRIPKIN, Yu.K., assistent; SOMOV, B.A., assistent

Hypnotic suggestion associated with electronarcosis in certain dermatoses. Vest. derm. i ven. 33 no.2:28-31 Mr-Ap '59. (MIRA 12:7)

1. Iz kafedry kozhnykh i venericheskikh bolezney (zav. - prof. M.M. Zheltakov) II Moskovskogo meditsinskogo instituta imeni N.I. Pirogova.
(SUGGESTION, ther. use,
skin dis., hypnotic suggestion with electronarcosis (Rus))
(ELECTRONARCOSIS, in var. dis.
skin dis., with hypnotic suggestion (Rus))
(SKIN DISEASES, ther.
hypnotic suggestion with electronarcosis (Rus))

STUDENITSIN, A.A., prof.; VINOKUROV, I.N., assistent

Vitamin B12 therapy in certain skin diseases. Vest. derm. i ven. 33 no.2:51-54 Mr-Ap '59. (MIRA 12:7)

1. Iz kafedry kozhnykh bolezney II Moskovskogo meditsinskogo instituta (zav. - prof. M.M. Zheltakov).
(VITAMIN B12, ther. use,
skin dis. (Rus))
(SKIN DISEASES, ther.
vitamin B12 (Rus))

USSR/Human and Animal Physiology (Normal and Pathological). T-14
Skin.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51413

Author : Vinokurov, I.N.
Inst :
Title : Functional and Histomorphological Changes in the Skin of Rabbits with Experimental Dermatitis in Certain Forms of an Affected Central Nervous System.

Orig Pub :

Abstract : Dermatitis was produced in rabbits by rubbing turpentine into a shaved portion of their skin for several days. Then, sleep was induced by hypodermic injection of chloral hydrate. On the side where dermatitis was present, skin temperature decreased by 0.4-1°C during sleep, and by 0.7-2.1° on the other side. When cold was applied (+0.4°), skin temperature decreased on the average by 5.7°, yet in the control animals it decreased by only 0.9°.

Card 1/2

USSR/Human and Animal Physiology (Normal and Pathological). T-14
Skin.

Abs Jour : Ref Zhur - Biol., No 11, 1958, 51413

When histomorphologic investigations were carried out, it was shown that inflammatory processes of the skin were less pronounced during sleep than when the animals were awake. Their skin nerves were thickened and twisted. Some changes were also discovered in symmetrical sections of the skin. When caffeine was hypodermically injected (0.1 gr/kg), chronaxy was shortened (to 0.028-0.034 σ). Histological skin investigation demonstrated a marked intensification of inflammatory processes. -- F.I. Munladze.

Card 2/2

VINOKUROV, I.P.

Paste for covering defects in plywood. Der. prom. 12 no.9:21 S '63. (MIRA 16:10)

VINOKUROV, I.P.

Using glues in the furniture industry. Der. prom. 12 no.12: 17-18 D '63. (MIRA 17:3)

1. Sarapul'skiy lesokombinat, Udmurtskaya ASSR.

HELOUS, M.Ye., inzh.; BER, Ya.I., inzh.; VINOKUROV, I.S., inzh.

Manufacture and installation of corrugated bulkheads in whalers.
Sudostroenie 25 no.4:36-40 Ap '59. (MIRA 12:6)
(Whalers)

BYKOVA, T.T.; VINOKUROV, I.V.

Use of the electron paramagnetic resonance method in studying surfaces of silicon and lead sulfide. Fiz. tver. tela 7 no.9:2597-2602 S '65.
(MIRA 18:10)

1. Leningradskiy gosudarstvennyy universitet i Institut khimii silikatov imeni I.V.Grebenshchikova AN SSSR, Leningrad.

L 8972-66 EWT(l)/EWT(m)/T/EWP(t)/EWP(b) IJP(c) JD/WW/GG

ACC NR: AP5027421 SOURCE CODE: UR/0181/65/007/011/3392/3401

AUTHOR: Bir, G. L.; Vinokurov, I. V.

ORG: Institute of Semiconductors AN SSSR, Leningrad (Institut poluprovodnikov AN SSSR)

TITLE: Forbidden transitions in the fine structure of a Gd^{3+} ion in a CeO_2 crystal

SOURCE: Fizika tverdogo tela, v. 7, no. 11, 1965, 3392-3401

TOPIC TAGS: gadolinium, cerium compound, oxide, forbidden transition, fine structure, EPR, crystal theory

ABSTRACT: This paper gives data from an experimental and theoretical study of lines due to forbidden transitions with $\Delta M \neq \pm 1$ in the fine structure of the electroc paramagnetic resonance spectrum for a Gd^{3+} ion in CeO_2. Expressions are found in the first approximation of perturbation theory with respect to $a/g\beta H$ for the matrix element of the forbidden transition $W_{M,N}(N \neq M \pm 1)$ for an ion located in a cubic crystal field. Here a is the constant of interaction with the crystal field. The authors study the angular relationship for intensity of various types of forbidden electron paramagnetic resonance lines of trivalent gadolinium in cerium dioxide. The experiments are done with orientations of the external magnetic field in planes {100} and

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ACC NR: AP5027421

(110). Theoretical considerations indicate an identical angular relationship for all forbidden lines corresponding to a single type of transition. However, a somewhat different angular relationship is observed experimentally for various lines belonging to a single type of forbidden transition. It is assumed that this is due to use of only the first approximation in the theoretical calculations, and that successive approximations would reveal differences in angular relationships for various lines. The formulas derived give a satisfactory description on the whole of the observed angular relationships. Orig. art. has: 3 figures, 1 table, 17 formulas.

SUB CODE: 07,20/ SUBM DATE: 03May65/ ORIG REF: 003/ OTH REF: 003

Card 2/2

BERLAGA, R.Ya.; VINOKUROV, I.V.; KONOROV, P.P.

Electric properties of single-crystal and polycrystalline lead sulfide layers. Fiz. tver. tela 5 no.12:3435-3438 D '63. (MIRA 17:2)

1. Leningradskiy gosudarstvennyy universitet.

L 00706-66 EPF(c)/EWA(c)/EWT(i)/EWT(m)/EWP(b)/T/EWP(t) IJP(c) GG/WW/JD

ACCESSION NR: AP5022692 UR/0181/65/007/009/2597/2602

AUTHOR: Bykova, T. T.; Vinokurov, I. V.

TITLE: Use of the electron paramagnetic resonance method for studying the surface of silicon and lead sulfide

SOURCE: Fizika tverdogo tela, v. 7, no. 9, 1965, 2597-2602

TOPIC TAGS: silicon, sulfide, lead compound, electron paramagnetic resonance, resonance line, surface property, crystal surface, single crystal

ABSTRACT: The authors studied the electron paramagnetic resonance spectra of Si and PbS powders at 293 and 77°K. The powders were produced by pulverizing single crystals in air and had a specific surface of (0.3±0.2) $m^2 \cdot g^{-1}$ for PbS and (1.39±0.03) $m^2 \cdot g^{-1}$ for Si. The measurements were made in a vacuum of 10^{-7}-10^{-8} mm Hg. The effect of hydrogen, oxygen, water vapor and air on the electron paramagnetic resonance spectra of these materials was also studied in the pressure range of 10^{-4}-10^{-1} mm Hg. The silicon used had *n*-type conductivity with a resistivity of 60 Ω·cm and a diffusion length of 0.4 mm. No resonance was observed in the silicon single crystal at either temperature. Untreated freshly pulverized silicon powder showed the intense symmetric line *A* (see fig. 1 of the Enclosure) of Lorentz shape

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ACCESSION NR: AP5022692

with g = 2.005±0.001 and width ΔH = (8.4±0.5) gauss. The number of centers corresponding to this line was estimated at $(7.2\pm2.7)\cdot10^{15}$ spin·cm^{-2}. Heating the powder for 1-2 hours at 773-873°K in a vacuum of 10^{-7} mm Hg reduces the amplitude of line *A* by a factor of 10-30 and gives a narrow line *B* with g = 2.0022 0.0009 and ΔH = (1.0±0.2) gauss superimposed on line *A* (see fig. 1b of the Enclosure). Additional heating of the powder in a vacuum of 10^{-6} mm Hg for 1 hour reduces the amplitudes of lines *A* and *B* by a factor of approximately 4 without changing their width (see fig. 1c of the Enclosure). Cooling in liquid nitrogen reduces the amplitude of line *A* by a factor of 11, and line *B* by a factor of 8 with slightly an increase in the widths of both lines. Oxygen at room temperature reduces the amplitude of line *B* slightly and has no effect on line *A*. Line *B* disappears in air at room temperature and line *A* is increased by a factor of 1.3. These phenomena are reversible. At 77°K, line *B* disappears in oxygen and line *A* is slightly intensified. Re-evacuation of the oxygen at 77°K reduces the intensity of line *A* to the original signal strength, but line *B* does not reappear. Heating the powder to room temperature restores line *B*. When hydrogen is admitted at 77°K, the amplitude of line *B* first increases slowly (to twice the original amplitude) and then has a tendency to reduce. Line *A* behaves in a similar fashion. Water vapor was admitted at room temperature and the electron paramagnetic resonance signals were measured at 77°K. A new resonance line was observed with g = 1.995±0.0003 and width

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ΔH = (1.0±0.2) gauss. It is assumed that line *A* is due to SiO_{x1} centers which are formed by the addition of oxygen to the silicon during pulverizing in air. Heating the powder in a vacuum apparently drives off some of the oxygen from the surface with the formation of SiO_{x2} centers which give the line *B*. The line *B* must be due to centers which are localized on the very surface of the silicon since this line disappears when oxygen is admitted at 77°K. The effect which hydrogen has on this line is apparently due to the reducing action of hydrogen. The line associated with water vapor is not fully explained. The *n*-PbS single crystals with a carrier concentration of $(3\text{-}5)\cdot10^{18}$ cm^{-3} showed no electron paramagnetic resonance signals when freshly pulverized and measured in air. In vacuum, an asymmetric signal appears with g_{av} = 2.002±0.001 and width ΔH = (13.4±0.9) gauss. This signal was considerably reduced by heating in a vacuum and in hydrogen. The original amplitude of the signal is restored by admitting oxygen at room temperature. It was found that the number of centers contributing to this signal is increased by a factor of 3.3 with the admission of oxygen and reaches a value of the order of $(5\pm3)\cdot\cdot10^{14}$ $spin\cdot cm^{-2}$. Cooling the specimen to 77°K in a vacuum of 10^{-5} mm Hg increases the amplitude of the electron paramagnetic resonance signal and changes its anisotropy. An additional narrow line appears at 77°K. Oxygen considerably reduces the signals at the low temperature. This phenomenon is reversible. The experimental

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data are explained by assuming that oxygen is adsorbed in two ways on the surface of lead sulfide. The signal with $g = 2.002$ is identified with the peroxide radical (O_2^-) which is formed by the action of oxygen at room temperature. The reduction in the electron paramagnetic resonance signal with the admission of oxygen at 77°K may be due to the considerably weaker bond between oxygen and the lead sulfide surface. The narrow line which appears only at 77°K is also apparently due to a surface radical since this phenomenon is reversible. The effect of water vapor and hydrogen on these signals was also studied. No change was observed in the spectrum at either temperature. Apparently neither water vapor nor hydrogen forms any additional surface radicals and the physical adsorption of non-paramagnetic molecules does not have any noticeable effect on the electron paramagnetic resonance spectrum. The results of these experiments may be used in studying the effect of adsorbed gases on the electric and photoelectric properties of these materials. "In conclusion, the authors are grateful to A. A. Lebedev for proposing the idea for these experiments, and for discussing the results, to Z. K. Artykbayeva for taking part in the experiments, to B. A. Kazenov for providing the single crystals of lead sulfide, and to N. N. Chernyshkov for measuring the powder surface." Orig. art. has: 5 figures.

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L 00706-66

ACCESSION NR: AP5022692

ASSOCIATION: Leningradskiy gosudarstvennyy universitet (Leningrad State University); Institut khimii silikatov im. I. V. Grebenshchikova AN SSSR, Leningrad (Institute of the Chemistry of Silicates, AN SSSR)

SUBMITTED: 01Feb65 ENCL: 01 SUB CODE: SS, OP

NO REF SOV: 003 OTHER: 007

Card 5/6

L 00706-66

ACCESSION NR: AP5022692

ENCLOSURE: 01

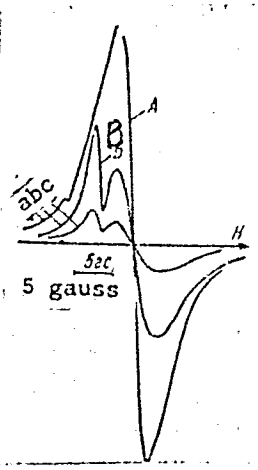

Fig. 1. Variation in electron paramagnetic resonance spectrum when silicon is heated in a vacuum. a--in air when heated to 293°K; b--after degassing at 673°K at 10^{-7} mm Hg; c--after additional heating at 773°K for 1 hour at 10^{-7} mm Hg. Curve a on this drawing is reduced by a factor of 13.

Card 6/6

L 52530-65 [illegible]

ACCESSION NR: AP5010704 UR/0181/65/007/004/1012/1016

AUTHOR: Vinokurov, I. V.; [illegible], [illegible]; Ioffe, V. A.

TITLE: Electron paramagnetic resonance spectra of the Gd^{3+} ion in CeO_2 single crystals

SOURCE: Fizika tverdogo tela, v. 7, no. 4, 1965, 1012-1016

TOPIC TAGS: electron paramagnetic resonance, epr spectrum, cerium oxide, gadolinium, fine structure, hyperfine structure

ABSTRACT: The EPR spectra of Gd^{3+} were investigated in single crystals of CeO_2, which has the same structure as [illegible] with ions of [illegible]. The single crystals were grown from [illegible] the temperature [illegible] of the crystals [illegible]

APPROVED FOR RELEASE: 09/01/2001 CIA-RDP86-00513R001860010018-6"

L 52530-65
ACCESSION NR: AP5010704

consisting of 7 fine-structure lines with a characteristic angular dependence. The angular dependence of these lines shows that, regardless of the crystal growth conditions and regardless of the [illegible] ion concentration, centers of the same type are produced in the [illegible], with [illegible] symmetry of the local field. The odd [illegible]

[illegible]

ASSOCIATION: [illegible] Khimii silikatov AN SSSR, Leningrad Institute of Chemistry of Silicates, AN SSSR

[illegible]

Card 2/2

ACCESSION NR: AP4004848 S/0181/63/005/012/3435/3438

AUTHORS: Berlaga, R. Ya.; Vinokurov, I. V.; Konorov, P. P.

TITLE: Electrical properties of PbS monocrystalline and polycrystalline layers

SOURCE: Fizika tverdogo tela, v. 5, no. 12, 1963, 3435-3438

TOPIC TAGS: lead sulfide, monocrystalline lead sulfide, polycrystalline lead sulfide, monocrystal, lead sulfide layer, polycrystal, electric property, single crystal

ABSTRACT: The authors studied electrical conductivities, Hall effects, and the thermoelectromotive force of polycrystalline and monocrystalline layers of PbS in order to determine the effect of crystalline interlayers and potential barriers on these properties. The PbS samples were activated by being heated at 600C in air for several minutes. The monocrystalline layers did not acquire any appreciable photosensitivity after heating. Their conductivity sign (determined from the sign of thermoelectromotive force) corresponded to p-type conductivity for some layers and to n-type conductivity for other layers. The polycrystalline layers always had n-conductivity before the sensitization and underwent a partial change to the p-conductivity after sensitization. It was established that in the activated

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ACCESSION NR: AP4004848

polycrystalline layers the Hall emf was determined by the barriers between the grains in the layer and the thermo-emf corresponded to the properties of grain volumes. This was attributed to the fact that the Hall effect was caused by continuous current through the sample, while the thermo-emf was caused by the diffusion of current carriers in separate crystals. Exponential growth of conductivity with the increase in temperature was observed in the activated polycrystalline layers. The strength of potential barriers was 0.12 - 0.14 ev. "In conclusion we express our appreciation to T. T. By*kova, L. P. Strakhov and O. M. Artamonov for useful discussions." Orig. art. has: 1 table.

ASSOCIATION: Leningradskiy gosudarstvenny*y universitet (Leningrad State University)

SUBMITTED: 20Jun63 DATE ACQ: 03Jan64 ENCL: 00

SUB CODE: PH NO SOV REF: 001 OTHER: 005

Card 2/2

SOV/137-57-10-19045

Translation from Referativnyy zhurnal, Metallurgiya, 1957, Nr 10, p 88 (USSR)

AUTHOR Vinokurov, I.Ya.

TITLE Experience in ~~Developing~~ the Rolling of Nr 24 and 30 Lightened I-Beams (Opyt osvoyeniya prokatki dvutavrovykh balok Nr 24 i 30 oblegchennogo tipa)

PERIODICAL V sb.: Ratsionalizatsiya profiley prokata. Moscow, Profizdat, 1956, pp 151-156

ABSTRACT Results of tests show the σ_s and σ_b of the metal in Nr 24 and 30 beams (B) of lightened design to be 15 and 7% higher, respectively, (with adequate δ) than that of ordinary B of the same metal. In order not to increase the total number of passes and not to reduce excessively the temperature at the end of rolling, the rolling of lightened B requires an increase in the reduction in each pass. If this is to be done, maximum reductions in the finishing stands (S) are best attained by a universal 4-roll S, in which it is possible to produce a draft 2 times as great as in ordinary S (with motors of equal power). It is necessary to reduce the allowances for web and flange thickness in I-B, but it is not advisable to reduce allowances

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Experience in Developing the Rolling of Nr 24 and 30 Lightened I-Beams

for web height (particulary for lightened B). The question of changing the allowances for rolled sections must be approached from the viewpoint of the consumer, with consideration of production possibilities and economics.

V.D.

MAKAYEV, Sergey Vladimirovich; VINOKUROV, Izrail Yakovlevich; MERKSIN, Boris Vasil'yevich; FEYGIN, Geshel' Davidovich; SKRYABIN, Nikolay Petrovich; RYABOKON', Nikolay Kononovich; LEDNEV, M.P., retsenzent; KOTSAR', Sergey Leonidovich, red.; BUR'KOV, M.M., red.izd-va; MAL'KOVA, N.T., tekhn. red.

[Production of lightweight sections]Proizvodstvo oblegchennykh profilei. [By]S.V.Makaev i dr. Sverdlovsk, Metallurgizdat, 1962. 215 p. (MIRA 16:3)
(Rolling (Metalwork))

SHALAYEV, Viktor Vasil'yevich; KALININ, Aleksandr Ivanovich; KOLBIN, Anatoliy Ivanovich; MEREKIN, Boris Vasil'yevich; FEYGIN, Geshel' Davidovich; VINOKUROV, Izrail Yakovlevich; SKAKUN, Vladimir Vasil'yevich; KAPUSTIN, Arkadiy Ivanovich; MOGILEVSKIY, David Markovich; ALEKSEYEVA, Tat'yana Alekseyevna; BABAYLOV, Finopent Ivanovich; SKRYABIN, N.P., red.; KRYZHOVA, M.L., red.izd-va; KOROL', V.P., tekhn. red.

[Improving procedures and equipment in shape rolling mills] Sovershenstvovanie tekhnologii i oborudovaniia v sortoprokatnom tsekhe. Sverdlovsk, Metallurgizdat, 1963. 163 p. (MIRA 16:1)
(Rolling (Metalwork))--Equipment and supplies)

Vinokurov, I. Ya.

137-58-2-2832

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 90 (USSR)

AUTHOR: Vinokurov, I. Ya.

TITLE: Experience in the Use of Rolls on a Rail/Structural Rolling Mill at the Novo Tagil'skiy Metal-Working Plant (Opyt ekspluatatsii prokatnykh valkov na rel'so-balochnom stane Novo-Tagil'skogo metallurgicheskogo zavoda)

PERIODICAL: Tr. Nauchno-tekhn. o-va chernoy metallurgii, 1956, Vol 10, pp 212-217

ABSTRACT: An analysis is given of the roll consumption of a rail/structural rolling mill consisting of a two-high 900 blooming stand, of 2 three-high 800 rolls, and of a two-high 800 finishing stand. This one mill was accounting for 75 percent of the plant's entire consumption of rolls. Measures are described designed to lower the consumption of rolls. In the course of use the roll diameter on mill 900 was increased to 1,000 mm. The rolls used on roll; 800, made from steel 60 KhN, were more durable than rolls made from steel 50. At the plant in question magnesium/cast-iron rolls from the Dnepr Roll-casting Plant had begun to be introduced, these being more

Card 1/2

Experience in the Use of Rolls on (cont.)

durable than the general run of CrNi rolls but not the most durable. The a_k value of the magnesium rolls was significantly lower than that of the CrNi rolls. The coefficient of friction was higher when rolling was done with magnesium rolls than when it was done with CrNi rolls. To lower its consumption of rolls the plant is now casehardening the rolls and building them up by electric welding. As a result of these measures its roll consumption has declined from year to year.

I.B.

1. Rolls—Consumption 2. Rolling mills—Applications

Card 2/2

RYABOKON', N.K., inzhener; GUBERT, S.V., inzhener; VINOKUROV, I.Ya., inzhener; FEYGIN, G.D., inzhener.

Rolling of reduced-weight I-beams. Stal' 15 no.11:1000-1003 N '55. (MLRA 9:1)

1. Novo-Tagil'skiy metallurgicheskiy zavod.
(Rolling (Metal work)) (Steel, Structural)

L 53978-65 EWT(m)/EWP(w)/EWA(d)/T/EWP(t)/EWP(z)/EWP(b) JD
ACCESSION NR: AP5014866
UR/0133/65/000/006/0553/0557
621.43.669.15.194

AUTHOR: Freydenzon, Ye. Z.; Rabinovich, D. M.; Vinokurov, I. Ya.; Loshkina, N.A.; Naymushina, L. F.; Freydenzon, Yu. Ye.

TITLE: Ways of improving the mechanical properties of low-carbon and low alloy steel sheets and sections

SOURCE: Stal', no. 6, 1965, 553-557

TOPIC TAGS: toughening, low carbon steel, low alloy steel, sheet steel, steel section, steel beam, quenched steel, toughened steel, spray quenching, quenching tank, impact toughness

ABSTRACT: Since the toughening of low-carbon and low-alloy metal by means of heat treatment requires substantial capital investments, it is of interest to consider other techniques. The authors describe the work being done in this field at the Nizhniy Tagil Metallurgical Combine with respect to the toughening of metal while it still is in heated state immediately after its rolling or forging. Beams, sheets and [illegible] quenching water [illegible] passed through an experimental

Card 1/3

L 53978-65
ACCESSION NR: AP5014856

spray installation. For stabilization of the properties at the required level and enhancement of plasticity after the toughening by quenching in the tank, it is expedient to perform additional tempering by means of the available heat-treatment equipment. In the spray installation the required level of properties can be attained by [illegible] water. The effect [illegible] determined in laboratory experiments with [illegible] level [illegible] could be increased [illegible] detriment to plastic properties [illegible] temperatures and after [illegible] over the area of the metal, in of specia. [illegible] 5 tables.

ASSOCIATION: Nizhne-Tagil'skiy metallurgicheskiy kombinat (Nizhniy Tagil Metallurgical Combine)

Card 2/3

L 53978-65
ACCESSION NR: AP5014866

SUBMITTED: 000

ENCL: 00

SUB CODE: MM

NO REF SOV: 005

OTHER: 001

Card 3/3

VINOKUROV, I.Ya.

SMIRNOV, V.D., inzhener; KYABOKON', N.K., inzhener; GUBERT, S.V., inzhener; VINOKUROV, I.Ya., inzhener; FEYGIN, G.D., inzhener.

Experience in rolling lightweight sections. Stal' 16 no.12:1086-1089 D '56. (MLRA 10:9)

1. Novo-Tagil'skiy metallurgicheskiy zavod.
(Rolling (Metalwork))

RYABOKON',N.K., inzhener; GUBERT, S.V., inzhener; VINOKUROV, I.Ya., inzhener; FEYGIN, G.D., inzhener.

Rolling of reduced-weight I-beams. Stal' 15 no.11:1000-1003 N '55. (MLRA 9:1)

1. Novo-Tagil'skiy metallurgicheskiy zavod.
(Rolling (Metal work)) (Steel, Structural)

VINOKUROV, I.Ya.

Center of deformation of a girder groove. Izv. vys. ucheb. zav.; chern. met. 4 no.10:66-74 '61. (MIRA 14:11)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Rolling mills) (Deformations (Mechanics))

SKRYABIN, N.P.; VINOKUROV, I.Ya.; KORSHCHIKOV, V.D.; KOCHETOV, I.M.

Rolling channels with a high output of the finishing groove.
Metallurg 7 no.1:30-31 Ja '62. (MIRA 15:1)

1. Ural'skiy institut chernykh metallov i Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Rolling (Metalwork))

VINOKUROV, I.Ya., inzh.; MAKOVSKIY, A.T., inzh.

Improvement of manipulator design for structural and rail mills.
Stal' 23 no.3:234-236 Mr '63. (MIRA 16:5)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Rolling mills--Equipment and supplies)

FREYDENZON, Ye.Z.; RABINOVICH, L.M.; VINOKUROV, I.Ye.; [illegible], E.A.; NAYMUSHINA, L.F.; FREYDENZON, Yu.Ye.

Ways of improving the mechanical properties of steel and rolled sections of low carbon and low alloy steel. Stal' 25 no.6:553-557 Je '65. (MIR: 18:6)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.

VINOKUROV, K.

Workers of the Main Administration for Housing and Public Construction in the City of Moscow were fully prepared for Builder's Day. Na stroi.Mosk. 2 no.8:1 Ag '59.
(MIRA 12:12)

1. Zamestitel' nachal'nika Glavmosstroya.
(Moscow--Building)

VINOKUROV, K.D.; DREMIN, M.V.; KAZAKIN, V.V.; GRIBIN, G.P., red.; MORSKOY, K.L., red.izd-va; RUDAKOVA, N.I., tekhn.red.; TEMKINA, Ye.L., tekhn.red.

[Mixed brigades on the construction sites of the Main Administration for Housing and Public Construction in the City of Moscow] Kompleksnye brigady na stroikakh Glavmosstroia. Moskva, Gos.izd-vo lit-ry po stroit., arkhit. i stroit.materialam, 1959. 61 p. (MIRA 13:1)
(Moscow--Building) (Wages)

VINOKUROV, K.

Matter of a great importance. Stroitel' 2 16 no.11:12-13 Ap-My '56. (MLRA 10:1)

1. Zamestitel' nachal'nika Glavmosstroya.
(Building) (Efficiency, Industrial)

VINOKUROV, Konstantin

Striding ahead with seven-league steps. Sov. profsoiuzy 17 no.24:12-14 D '61. (MIRA 14:12)
(Romanovskiy District--Farm mechanization)
(Romanovskiy District--Swine)

VINOKUROV, K.A.

"Clinical and Epidemiological Data on Epidemic Poliomyelitis in Children, According to Expeditionary Work of the Institute of Neurology, Academy of Medical Sciences USSR." A report by K.A. Vinokurov.

Observations were presented on several epidemic outbreaks of poliomyelitis in the Soviet Union and in the territory of the German Democratic Republic.

SO: Nevropatologiya i Psikhiatriya, No. 2, 1951, pp 93-97

USSR/Medicine - Virus Diseases Mar 52

"Epidemic Poliomyelitis," K. A. Vinokurov, Sr Sci Assoc, Inst of Neurol, Acad Med Sci USSR

"Med Sestra" No 3, pp 14-18

Describes etiology, symptoms, and treatment of this disease--also care of patients. Recommends treatment in the early stage of the disease with serum of blood obtained from persons who have recovered from poliomyelitis, anti-measles serum, or gamma globulin. These prepns are injected intramuscularly during 4-6 days.

DUPLICATE IN BIBLIOGRAPHIC FILE

207158

Some Clinical and Epidemiological Problems of Acute Poliomyelitis, Zhur. nevr. i psikh.,
VINOKUROV, K.A.

K.A. VINOKUROV. Zhurnal Nevropat. i P.k.

53, 658-663, Aug., 1953.

The author discusses the variability of the clinical manifestations, severity, and end-results of poliomyelitis in the light of several thousand cases studied in the East German Republic and in the corresponding latitudes of the Soviet Union between 1947 and 1952. This variability is believed to be conditioned by the varying reactivity of the patient, which is largely determined by the nervous system. This view is also supported by the occurrence of similar clinical features in infections with other viruses, such as tick-borne encephalitis and Japanese encephalitis on the one hand, and poliomyelitis on the other.

Poliomyelitis ran a milder course in the Soviet Union than in eastern Germany. In the latter country, 39.4% of the patients were left with residual paralysis, compared with 24.8 to 26.7% in the U.S.S.R., while the mortality in the two areas was 10.7% and 1 to 2% respectively. A special epidemiological study of minor epidemics carried out in some of the smaller towns showed that such epidemics were usually heralded by the occurrence of sporadic cases in the preceding years. There was also much evidence of the infectivity of the disease, especially in its early stages, infection being mainly by contact, although there was a few instances of food-borne transmission. In two of the outbreaks lumbar puncture showed an increase in the number of polymorphonuclear leucocytes in the cerebrospinal fluid of close contacts. Inoculation of a faecal emulsion

PMS 23

VINOKUROV, K. A.

VINOKUROV, K.A.

Out-of-town session of the Scientific Council of the Institute of Neurology of the U.S.S.R. Academy of Medical Sciences with the Learned Council of the Yaroslavl Medical Institute and Yaroslavl Province Public Health Department. Vest AMN SSSR no.2:72-74 '54. (MLRA 7:7)

(YAROSLAVL--MEDICINE, PREVENTIVE-- CONGRESSES)

VINOKUROV, K.A.

Problem of epidemic poliomyelitis. Priroda 44 no.5:52-58 My '55. (MLRA 8:7)
(Rome--Poliomyelitis--Congresses)

VINOKUROV, K.A.

SHMIDT, E.V.; VINOKUROV, K.A.

Third International Conference on Poliomyelitis. Zhur.nevr. i psikh. 55 no.2:156-159 F '55. (MLRA 8:4)
(POLIOMYELITIS, cong.)

VINOKUROV, K.

"A New Stage in the Fight Against Poliomyelitis," Meditsinskiy Rabotnik, No.79 (1407), 27 Sep 55, p. 3.

Translation M-1042, 28 Mar 56

Scientific Worker of the Institute of Neurology, AMS USSR

VINOKUROV, Konstantin Aleksandrovich, starshiy nauchnyy sotrudnik; BENYUMOV, O.M., redaktor; FURMAN, G.V., tekhnicheskiy redaktor

[Epidemic infantile paralysis; poliomyelititis] Epidemicheskii detskii paralich; poliomielit. Moskva, Izd-vo "Znanie," 1956. 39 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 3, nl.32) (MLRA 9:9)

1. Institut nevrologii Akademii meditsinskikh nauk SSSR (for Vinokurov)
(POLIOMYELITIS)

VINOKUROV, K.A., starshiy nauchnyy sotrudnik (Moskva)

Prophylaxis of poliomyelitis. Med. sestra 15 no.3:3-7 Mr '56.
(POLIOMYELITIS) (MLRA 9:6)

VINOKUROV, K.A., starshiy nauchnyy sotrudnik

Pathogenesis and prevention of severe paralysis in epidemic poliomyelitis. Ortop., travm. i protez. 17 no.2:64-70 Mr-Ap '56. (MLRA 9:12)

1. Iz Instituta nevrologii (dir. - N.V.Konovalov) Akademii meditsinskikh nauk SSSR.

(POLIOMYELITIS,
pathogen. & prev. of paralysis (Rus))

VINOKUROV, K.A.

USSR/Medicine

Card 1/1 Pub. 86 - 6/42

Authors : Vinokurov, K. A.

Title : The fight against poliomyelitis

Periodical : Priroda 45/1, 46-50, Jan 56

Abstract : The general progress of medicine in combatting disease is cited, with polio named as one of the diseases which science is having the most difficulty in conquering. The changes in the character of this disease as regards the parts of the body affected and the age groups contracting it are discussed. An account is given of the research done by scientists in various countries through which they learned more of the nature of the disease and made many discoveries, such as the role played by antibodies and the isolation of the virus, culminating in the development of Dr. Saulk's vaccine, the merits of which are discussed.

Institution : .....

Submitted : .....

Category: USSR/General Division. Congresses.Conventions. Conferences. A-4

Abs Jour: Referat Zh.-Biol., No 9, 10 May 1957, 34943

Author : Shmidt, E.V., Vinokurov, K.A.
Inst : not given
Title : The IIIrd International Conference on Poliomyelitis

Orig Pub: Zh. nevropatol. ipsikhiatii, 1955, 55, No 2, 156-159

Abstract: A short summary of the reports of the conference which took place in Rome 6-10 September, 1954, and which was devoted to the virusology, immunology, epidemiology, clinic, treatment, vaccination, and social problems of the prophylaxis of poliomyelitis.

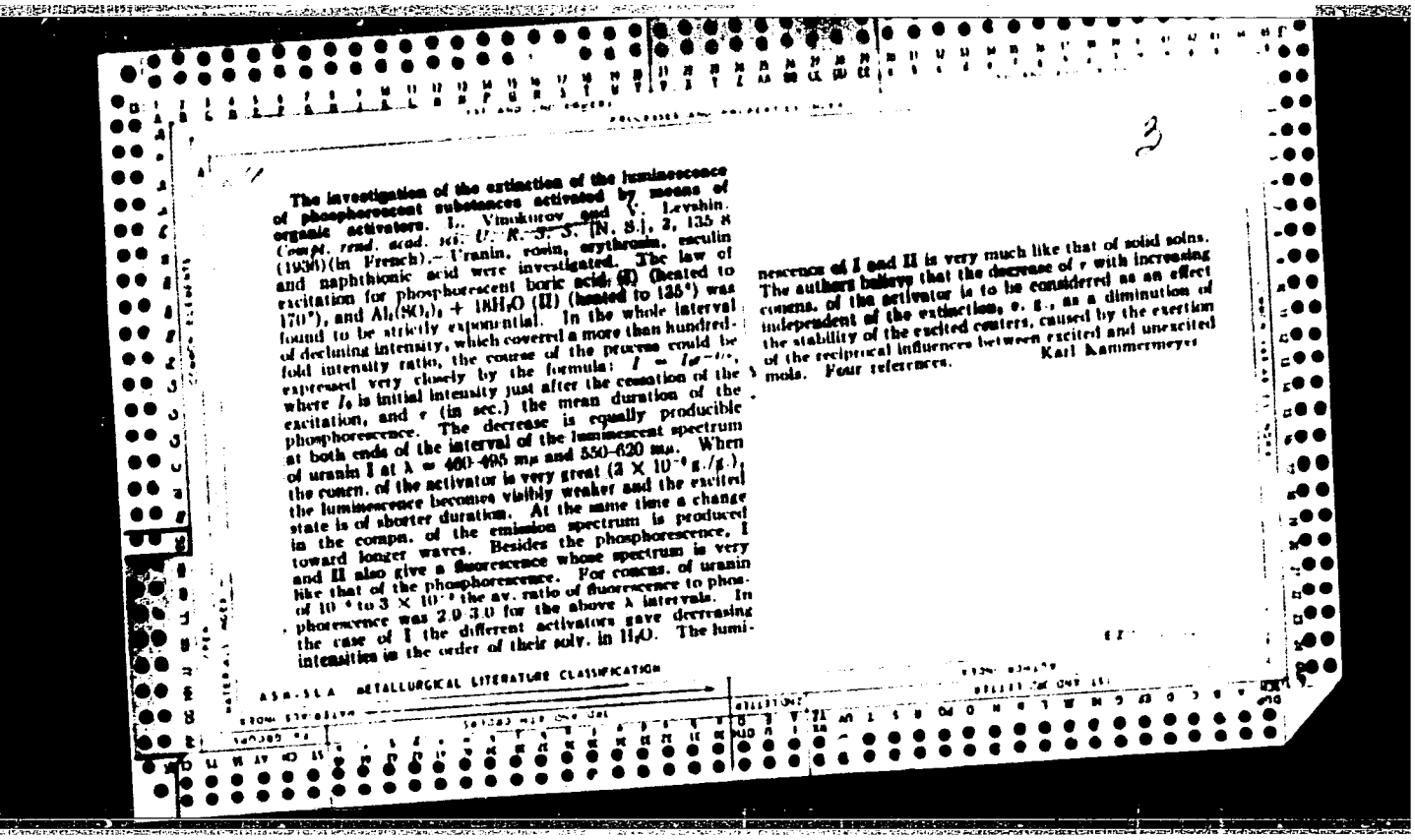
Card : 1/1

VINOKUROV, Konstantin Vasil'yevich; RAKITINA, Ye.D., red.; BALLOD, A.I., tekhn.red.

[Owners of the land] Khoziaeva zemli. [Moskva] Gos. izd-vo sel'khoz. lit-ry, 1957. 124 p. (MIRA 11:5)
(Collective farms)

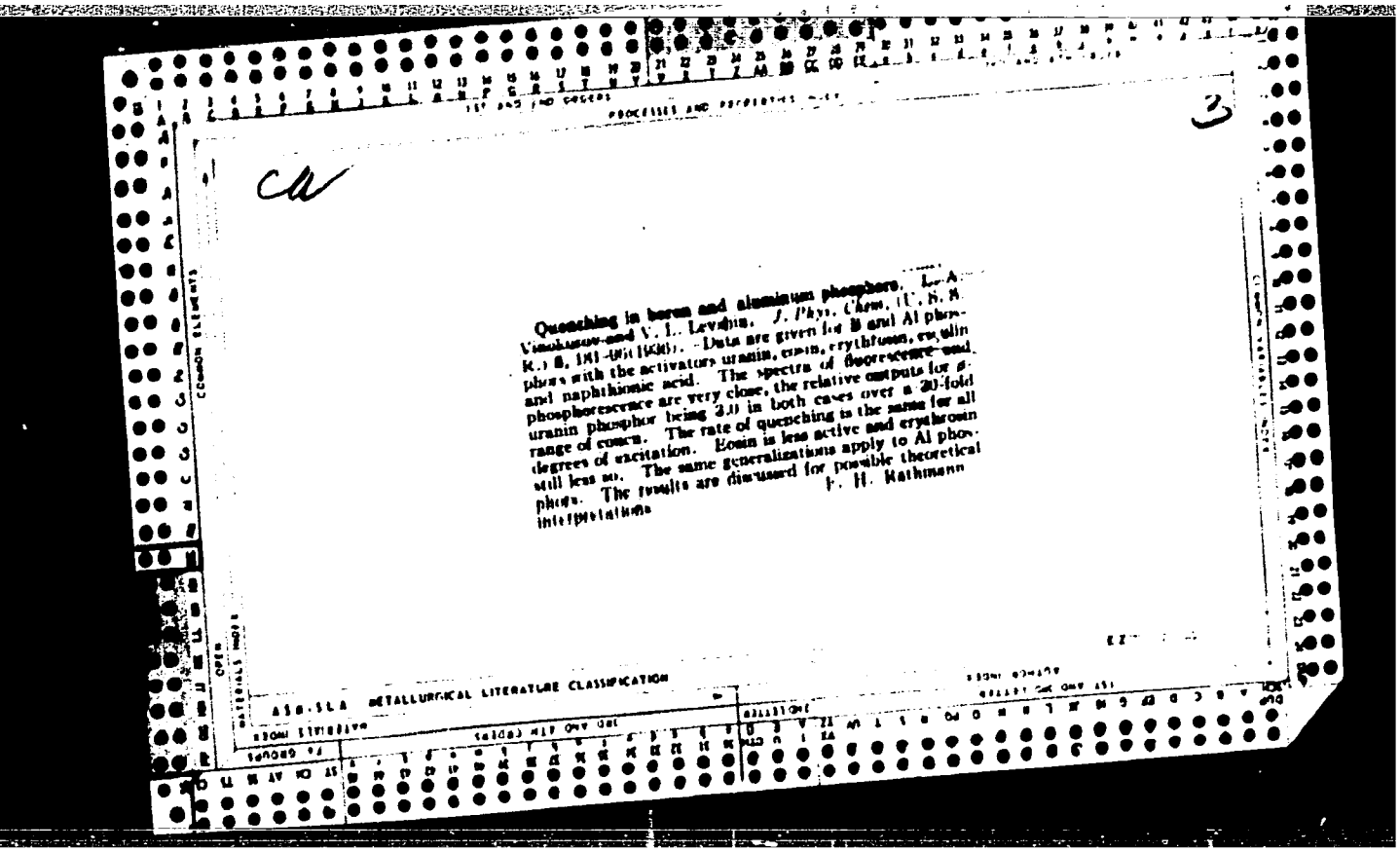
VINOKUROV, Konstantin Vasil'yevich; KASHIRSKIY, F., redaktor; DANILINA, A., tekhnicheskiy redaktor

[Toward 11 billion poods of grain] Za odinnadtsat' milliardov pudov zerna. Moskva, Gos. izd-vo polit. lit-ry, 1956. 52 p. (MLRA 9:9)
(Grain)

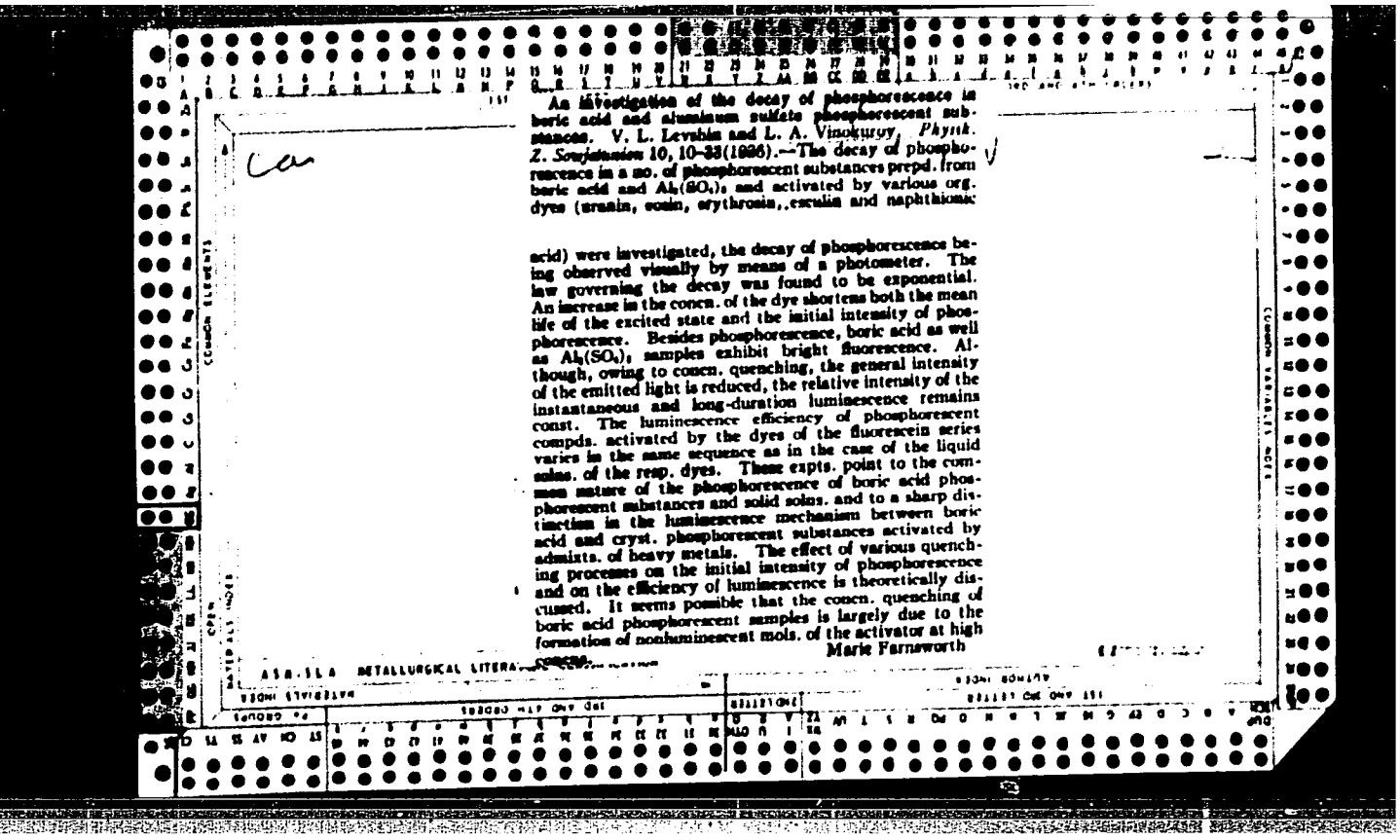


The investigation of the extinction of the luminescence of phosphorescent substances activated by means of organic activators. L. Vinokurov and V. Levshin. *Compt. rend. acad. sci. U. R. S. S.* [N. S.], 2, 135-8 (1930)(In French).—Uranin, rosin, erythrosin, esculin and naphthionic acid were investigated. The law of excitation for phosphorescent boric acid (I) (heated to 170°), and $Al_2(SO_4)_3 + 18H_2O$ (II) (heated to 135°) was found to be strictly exponential. In the whole interval of declining intensity, which covered a more than hundred-fold intensity ratio, the course of the process could be expressed very closely by the formula: $I = I_0 e^{-t/\tau}$, where I_0 is initial intensity just after the cessation of the excitation, and τ (in sec.) the mean duration of the phosphorescence. The decrease is equally producible at both ends of the interval of the luminescent spectrum of uranin I at λ = 460-495 mμ and 550-620 mμ. When the concn. of the activator is very great (3×10^{-2} g./g.), the luminescence becomes visibly weaker and the excited state is of shorter duration. At the same time a change in the compn. of the emission spectrum is produced toward longer waves. Besides the phosphorescence, I and II also give a fluorescence whose spectrum is very like that of the phosphorescence. For concns. of uranin of 10^{-6} to 3×10^{-2} the av. ratio of fluorescence to phosphorescence was 2.0-3.0 for the above λ intervals. In the case of I the different activators gave decreasing intensities in the order of their solv. in H_2O. The luminescence of I and II is very much like that of solid solns. The authors believe that the decrease of τ with increasing concns. of the activator is to be considered as an effect independent of the extinction, e. g., as a diminution of the stability of the excited centers, caused by the exertion of the reciprocal influences between excited and unexcited mols. Four references. Karl Kammermeyer

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

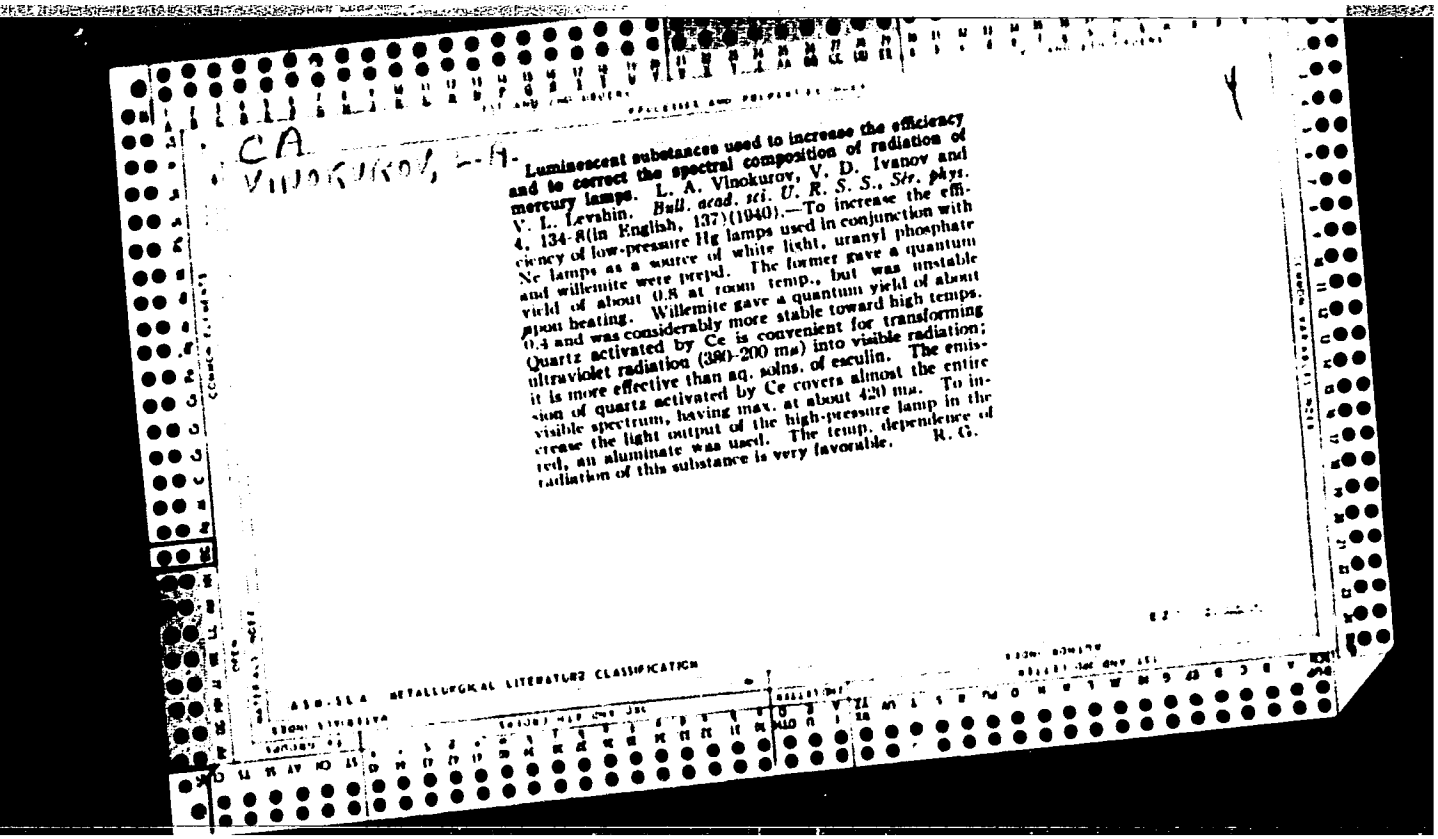


Quenching in boron and aluminum phosphors. L. A. Vinokurov and V. L. Levshin. *J. Phys. Chem. (U. S. S. R.)* 8, 181–9(1936). Data are given for B and Al phosphors with the activators uranin, eosin, erythrosin, eosin and naphthionic acid. The spectra of fluorescence and phosphorescence are very close, the relative outputs for uranin phosphor being 3.0 in both cases over a 20-fold range of concn. The rate of quenching is the same for all degrees of excitation. Eosin is less active and erythrosin still less so. The same generalizations apply to Al phosphors. The results are discussed for possible theoretical interpretations. F. H. Rathmann



An investigation of the decay of phosphorescence in boric acid and aluminum sulfate phosphorescent substances. V. L. Levshin and L. A. Vinokurov. *Physik. Z. Sowjetunion* 10, 10–33(1936).—The decay of phosphorescence in a no. of phosphorescent substances prepd. from boric acid and $Al_2(SO_4)_3$ and activated by various org. dyes (uranin, eosin, erythrosin, esculin and naphthionic acid) were investigated, the decay of phosphorescence being observed visually by means of a photometer. The law governing the decay was found to be exponential. An increase in the concn. of the dye shortens both the mean life of the excited state and the initial intensity of phosphorescence. Besides phosphorescence, boric acid as well as $Al_2(SO_4)_3$ samples exhibit bright fluorescence. Although, owing to concn. quenching, the general intensity of the emitted light is reduced, the relative intensity of the instantaneous and long-duration luminescence remains const. The luminescence efficiency of phosphorescent compds. activated by the dyes of the fluorescein series varies in the same sequence as in the case of the liquid solns. of the resp. dyes. These expts. point to the common nature of the phosphorescence of boric acid phosphorescent substances and solid solns. and to a sharp distinction in the luminescence mechanism between boric acid and cryst. phosphorescent substances activated by admixts. of heavy metals. The effect of various quenching processes on the initial intensity of phosphorescence and on the efficiency of luminescence is theoretically discussed. It seems possible that the concn. quenching of boric acid phosphorescent samples is largely due to the formation of nonluminescent mols. of the activator at high concns.

Marie Farnsworth



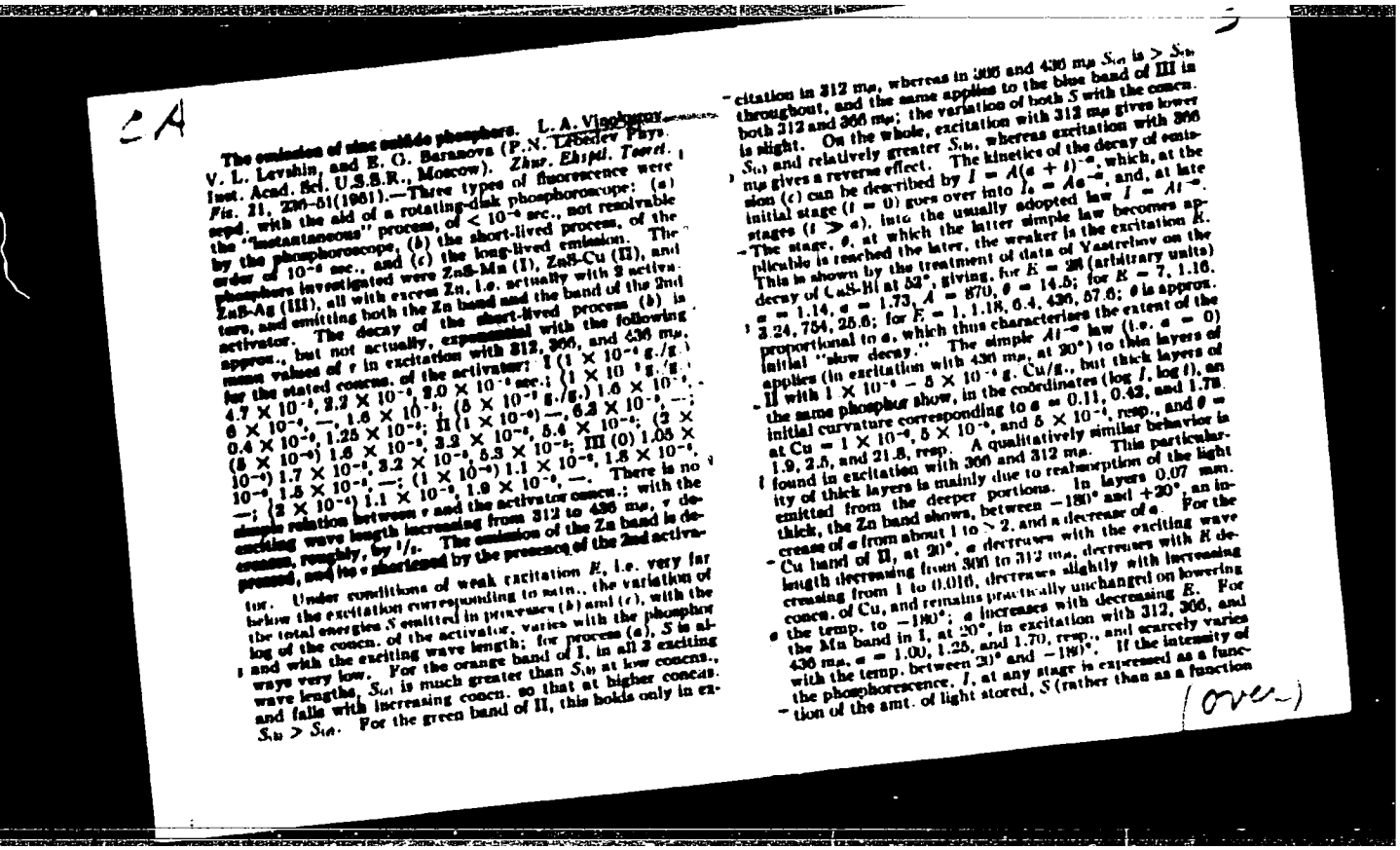
CA

Luminescent substances used to increase the efficiency and to correct the spectral composition of radiation of mercury lamps. L. A. Vinokurov, V. D. Ivanov and V. L. Levshin. *Bull. acad. sci. U. R. S. S., Sér. phys.* 4, 134-8(in English, 137)(1940).—To increase the efficiency of low-pressure Hg lamps used in conjunction with Ne lamps as a source of white light, uranyl phosphate and willemite were prepd. The former gave a quantum yield of about 0.8 at room temp., but was unstable upon heating. Willemite gave a quantum yield of about 0.4 and was considerably more stable toward high temps. Quartz activated by Ce is convenient for transforming ultraviolet radiation (380-200 mμ) into visible radiation; it is more effective than aq. solns. of esculin. The emission of quartz activated by Ce covers almost the entire visible spectrum, having max. at about 420 mμ. To increase the light output of the high-pressure lamp in the red, an aluminate was used. The temp. dependence of radiation of this substance is very favorable. R. G.

CA

3

Measurement of the intrinsic efficiency of ultraviolet luminescence. M. N. Alentsev and L. A. Vinokurov. *Izvest. Akad. Nauk S.S.S.R., Ser. Fiz.* 15, 728-9(1951).—Light from a Hg-quartz lamp falls on 2 flat Al boxes, one contg. MgO and the other the phosphor (in this case a phenylene emitting between 270 and 360 mμ). The light of each sample falls on a fluorescein soln., the light of which is photometered with a Pulfrich photometer. A *p*-nitrophenol filter (a satd. soln. dild. 1:150) is provided to cut off radiation 270–360 mμ. During the measurement the filter is first placed between lamp and samples and then between samples and fluorescein troughs. The quantum output is $q = (a - b)/(1 - b)$, where a and b are ratios of the fluorescence brightness in the troughs in the 1st and 2nd filter position, resp. S. Pakswer



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The emission of zinc sulfide phosphors. L. A. Vigdorov, V. L. Levshin, and E. G. Baranova (P.N. Lebedev Phys. Inst. Acad. Sci. U.S.S.R., Moscow). *Zhur. Eksptl. Teoret. Fiz.* 21, 230–51(1951).—Three types of fluorescence were sepd. with the aid of a rotating-disk phosphoroscope: (*a*) the "instantaneous" process, of < 10^{-8} sec., not resolvable by the phosphoroscope; (*b*) the short-lived process, of the order of 10^{-4} sec., and (*c*) the long-lived emission. The phosphors investigated were ZnS-Mn (I), ZnS-Cu (II), and ZnS-Ag (III), all with excess Zn, i.e. actually with 2 activators, and emitting both the Zn band and the band of the 2nd activator. The decay of the short-lived process (*b*) is approx., but not actually, exponential with the following mean values of τ in excitation with 312, 366, and 436 mμ, for the stated concns. of the activator: I (1×10^{-4} g./g., 4.7×10^{-4}, 2.2×10^{-3}, 2.0×10^{-2} sec.; (1×10^{-3} g./g.) 1.6×10^{-3}, 6×10^{-3}, —, 1.6×10^{-2}; (5×10^{-3} g./g.) 1.6×10^{-3}, —, 0.4×10^{-2}, 1.25×10^{-2}; II (1×10^{-6}) —, 6.2×10^{-4}, (2 × (5×10^{-6}) 1.6×10^{-3}, 3.2×10^{-3}, 5.4×10^{-3}; III (0) 1.05×10^{-3}, 1.7×10^{-2}, 3.2×10^{-2}, 5.3×10^{-2}; (1×10^{-5}) 1.8×10^{-3}, 10^{-2}, 1.5×10^{-2}, —; (1×10^{-4}) 1.1×10^{-2}, 1.8×10^{-2}, —; (2×10^{-4}) 1.1×10^{-2}, 1.9×10^{-2}, —. There is no simple relation between τ and the activator concn.; with the exciting wave length increasing from 312 to 436 mμ, τ decreases, roughly, by 1/2. The emission of the Zn band is depressed, and its τ shortened by the presence of the 2nd activator. Under conditions of weak excitation E, i.e. very far below the excitation corresponding to satn., the variation of the total energies S emitted in processes (*b*) and (*c*), with the log of the concn. of the activator, varies with the phosphor and with the exciting wave length; for process (*a*), S is always very low. For the orange band of I, in all 3 exciting wave lengths, S_{cu} is much greater than S_{Mn} at low concns., and falls with increasing concn. so that at higher concns. $S_{Mn} > S_{Cu}$. For the green band of II, this holds only in excitation in 312 mμ, whereas in 366 and 436 mμ S_{Cu} is > S_{Mn} throughout, and the same applies to the blue band of III in both 312 and 366 mμ; the variation of both S with the concn. is slight. On the whole, excitation with 312 mμ gives lower S_{Cu} and relatively greater S_{Mn}, whereas excitation with 366 mμ gives a reverse effect. The kinetics of the decay of emission (*c*) can be described by $I = A(a + t)^{-\alpha}$, which, at the initial stage ($t = 0$) goes over into $I_0 = Aa^{-\alpha}$, and, at late stages ($t > a$), into the usually adopted law $I = At^{-\alpha}$. The stage, θ, at which the latter simple law becomes applicable is reached the later, the weaker is the excitation E. This is shown by the treatment of data of Vastrelow on the decay of CuS-Hi at 52°, giving, for E = 28 (arbitrary units) a = 1.14, a = 1.73, A = 870, θ = 14.5; for E = 7, 1.16, 3.24, 754, 25.6; for E = 1, 1.18, 6.4, 436, 57.6; θ is approx. proportional to a, which thus characterizes the extent of the initial "slow decay." The simple $At^{-\alpha}$ law (i.e. a = 0) applies (in excitation with 436 mμ, at 20°) to thin layers of II with $1 \times 10^{-4} - 5 \times 10^{-4}$ g. Cu/g., but thick layers of the same phosphor show, in the coördinates (log I, log t), an initial curvature corresponding to a = 0.11, 0.42, and 1.78 at Cu = 1×10^{-4}, 5×10^{-4}, and 5×10^{-3}, resp., and θ = 1.9, 2.5, and 21.8, resp. A qualitatively similar behavior is found in excitation with 366 and 312 mμ. This particularity of thick layers is mainly due to reabsorption of the light emitted from the deeper portions. In layers 0.07 mm. thick, the Zn band shows, between −180° and +20°, an increase of a from about 1 to > 2, and a decrease of α. For the Cu band of II, at 20°, a decreases with the exciting wave length decreasing from 366 to 312 mμ, decreases with E decreasing from 1 to 0.016, decreases slightly with increasing concn. of Cu, and remains practically unchanged on lowering the temp. to −180°; a increases with decreasing E. For the Mn band in I, at 20°, in excitation with 312, 366, and 436 mμ, α = 1.00, 1.25, and 1.70, resp., and scarcely varies with the temp. between 20° and −180°. If the intensity of the phosphorescence, I, at any stage is expressed as a function of the amt. of light stored, S (rather than as a function

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of time), the relationship is empirically of the form $I = BS^n$ where $B = B'd$, with d = thickness. This relation can be linked with the decay law $I = A(a + t)^{-a}$, as, in the absence of quenching, $I = -dS/dt$, and hence $B = A^{1/(1-a)}(1 - a)^{-1/(1-a)}$ and $n = a/(a - 1)$; however, in most phosphors, $I \neq -dS/dt$, and the BS^n law is not to be related to the kinetic law in terms of t. For II (5×10^{-6} g. Cu/g.), in 366 mμ, $n = 3.5$, and $10^4B = 3.8, 2.4, 2.00, 1.55$, at $E = 1, 3.8, 15, 60$, resp. For III (2×10^{-6} g. Ag/g.), in 366 mμ, $n = 3$, and $10^4B = 4.20, 5.28, 11.2, 24.6$, at $E = 64, 16, 4, 1$, resp. The variation of B with E is due to the fact that equal S corresponds to an early stage of the emission in the case of strong E, but to a late stage in weak E; it means that at equal no. of excited electrons, recombination is faster at the early stages of a weakly excited phosphor than at the late stages of a strongly excited phosphor. Comparison of B in excitation with 312 and 366 mμ shows that the stability of systems excited by light absorbed in the fundamental band 312 mμ is lower than that of systems excited in the region of absorption of the activator.

N. Thon

CA

Temperature and infrared quenching of the ZnS—Cu, Co phosphor. L. A. Vinokurov (P. N. Lebedev Phys. Inst. Acad. Sci. U.S.S.R., Moscow). *Doklady Akad. Nauk S.S.S.R.* 85, 529–32(1952).—Temp. quenching in recombination-type luminescence can be of 2 kinds: by mechanism I quenching takes place at the very centers after the recombination act, i.e. the recombining electrons fall onto the excitation levels of the ionized centers, whence they can pass to the ground state either with or without emission. By mechanism II quenching is independent of the recombination; in one possible path, the electron passes from the lower filled band to the ground level of the ionized center, and the holes in the filled band combine with the free electrons of the conduction band or of the trapping levels. In the alternative I the decay remains bimol., and the decay curve should remain hyperbolic as in the absence of quenching; in contrast, in II, quenching is unimol., and the decay curve should become exponential. Exptl. decay curves at 20, 100, and 175° were detd. for ZnS-Cu, Co. At 20 and at 100° the decay was found to follow Becquerel's law $I = (a + bt)^{-\alpha}$ ($\alpha \leq 2$), but at 175° the curve is more nearly exponential, $I = I_0 e^{-t/\tau}$. This is taken as an indication that at 175° the temp. quenching is of type II. In quenching by long-wave radiation (max. at 800 mμ) the Becquerel kinetics of decay remains valid, with $\alpha \approx 2$ unchanged with the intensity of the quenching radiation varying by a factor of 100. This is taken to indicate type-I quenching by infrared. The action of the long-wave light consists in liberating electrons from the trapping levels, these freed electrons then recombine with the ionized centers. Recombination with these optical electrons takes place without emission; this can happen only if the centers possess several excited levels, with different probabilities of radiationless return to the ground level. In contrast thermally freed electrons appear to get onto levels from which return to the ground state is accompanied by emission. Flash produced by long-wave light is due to electrons being liberated optically from the deeper trapping levels and being trapped at shallower levels from which, in turn, they are liberated thermally, thus increasing the no. of radiating transitions; in other words, long-wave light, along with its quenching action, also increases the population of the shallower levels. If so, one should expect a short-lived flash if the quenching long-wave light is turned on at a late stage of natural decay, when the shallow levels have already become strongly depopulated. This was actually observed with ZnS-Cu, Co; the effect is more marked, the later is the stage of decay at which the long-wave light is turned on. The maxima of the quenching action, 0.8 and 1.3 μ, coincide with the maxima of photocond. and with the maxima of

BUKKE, Ye.Ye.; VINOKUROV, L.A.; FOK, M.V.

Role of holes in the electroluminescence kinetics of ZnS-Cu, Al, Cl phosphors. Opt. i spektr. 16 no.3:491-495 Mr '64. (MIRA 17:4)

VINOKUROV L. P.

USSR

Quenching of zinc sulfide phosphors activated by means of cobalt and nickel. V. V. Antonov-Romanovskii, E. E. Hukke, and L. A. Vinokurov. *Zhur. Eksptl. i Teoret. Fiz.* 25, 745–8(1953).—The introduction of 10^{-4}–10^{-7} parts Co or Ni activators into ZnS phosphors leads to the appearance of new absorption bands in the red (700–80) mμ) and infra-red. The intensities of these new bands depend not only on the concns. of the Co or Ni, but also on the quantity of a 2nd activator, Cu or Ag, in similar amts. The life of the excited state is of the order of 2×10^{-7} sec. F. H. K.

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VINOKUROV, L. A.

USSR/Physics - Luminescence

Card : 1/1

Authors : Alentsev, M. N., Antonov-Romanovskiy, V. V. and Vinokurov, L. A.

Title : Relation between the green luminescence discharge of ZnS-Cu phosphorus and the excitation intensity

Periodical : Dokl. AN SSSR, 96, Ed. 6, 1133 - 1134, June 1954

Abstract : A study of the relation between green luminescence intensity of ZnS-Cu phosphorus and the intensity of the exciting light revealed two types of deviations from the proportionality between these two values. The luminescence intensity during weak excitation increases more rapidly than the proportional intensity of the exciting light. Proportionality exists at a certain interval and further excitation amplification decreases the luminescence intensity of the phosphorus in ratio to the intensity of the exciting light. Four references. Graphs.

Institute : Acad. of S. USSR, The P. N. Lebedev Physics Institute

Presented by : Academician G. S. Landsberg, March 12, 1954

USSR/Physics - Phosphors

FD-3254

Card 1/1 Pub. 146 - 13/44

Author : Antonov-Romanovskiy, V. V.; Vinokurov, L. A.

Title : Decrease in the illumination yield of phosphors during intense excitation

Periodical : Zhur. eksp. i teor. fiz., 29, No 6(12), Dec 1955, 830-833

Abstract : A demonstration that the decrease in the illumination yield of phosphors ZnS-Cu and ZnS-Cu,Co during intense excitation is due in considerable degree to the light-eliciting action of the exciting light and to the fact that recombination of optical electrons or "holes" leads to radiatorless transitions. The authors show that the same causes lead to the fact that the light sum determined from the curve of illumination growth turns out to be considerably less than the light sum determined from the curve of extinguishing. They conclude that the causes for the decrease in the light yield of the phosphor ZnS-Cu,Co outside the region of the so-called plateau are the same as for the phosphor ZnS-Cu, and that for small intensities of the exciting light this decrease is caused by the increase in the role of external extinguishing, while for large intensities it is due to the light-eliciting action of the exciting light. The authors remark that incorrect interpretations of results in studies of extinguishing of ZnS-Cu phosphors by ferrous elements are caused by neglect of phenomena connected with the light-eliciting action of the exciting light. Five references.

Institution : Physical Institute im. P. N. Lebedev, Acad. Sci. USSR

Submitted : June 11, 1955

VINOKUROV, L.A.

Category : USSR/Optics - Physical optics K-5

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2361

Author : Antonov-Romanovskiy, V.V., Vinokurov, L.A.
Inst : Physics Institute, Academy of Sciences USSR
Title : On the Nature of the Luminescence Loss of the ZnS-Cu, Co Phosphor in the Region where the Yield is Independent of the Intensity of the Exciting Light.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 1, 66-70

Abstract : The dependence of the quantum yield q of the luminescence of the ZnS-(Cu, Co) phosphor on the intensity E of the exciting light was investigated. The results are analogous to those obtained for pure XnS-Cu (Referat. Zhur. Fizika 1955, 5672) with the only difference that $q \ll 1$ in the "plateau" region. What was measured in this experiment was not q, but the stationary brightness I_∞ which is proportional to 2. The ration $I_{\infty\,Cu}/I_{\infty}$ Cu,Co was determined; owing to the independence of the absorption in the spectral excitation region, (λ= 356 millimicrons) this ratio is equal to q_{Cu}/q_{CumCo}, where $q_{Cu} \approx 1$ (Ref. Zhur. Fiz., 1955, 5672). This ratio was also measured by determining the ratio $F_{Co}/F_{Cu,Co}$, where F is the reserve light sum in short-period excitation. The losses prior to ionization were estimated using the quation $q_{1Cu}/q_{1Cu,Co} = k_{Cu}/k_{Cu,Co}$, where k is the coefficient of additional absorption, occurring during short-period excitation. In the case of recombination glow $q = q_1 q_2$, where q_1

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is the ionization yield of the glow centers, calculated for the number of absorbed quanta, and q_2 is the radiation yield, calculated for the number of localized electrons. It was established that the basic losses due to introducing Co are the losses occurring after ionization, caused by the recombination on free holes with the localized electrons. The share of these combination increases sharply owing to the formation of deep electron traps by the cobalt.

VINOKUROV, L.A.

Category : USSR/Optics - Physical optics

Abs Jour : Ref Zhur - Fizika, No 1, 1957, No 2362 K-5

Author : Antonov-Romanovskiy, V.V., Vinokurov, L.A.
Inst : Physics Inst., Acad. of Sciences USSR
Title : Kinetics of the Glow of the ZhS-Cu, Co Phosphor in the Region where the Glow Yield is Independent of the Intensity of the Exciting Light.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 1, 71-76

Abstract : Continuing their work, (see Abstract 2361), the authors show that the inequality of the light sums, computed from the curves for the flareup and extinction of the glow, observed in the region where the glow yield is independent of the intensity of the exciting light ("plateau" region) for the ZnS-Cu, Co phosphor, is caused by the change in the distribution of electrons and the holes over capture levels of various depths, occurring during the time of the flareup. The temperature shift of the "plateau" region was used to estimate approximately the depth of the deepest electron and hole traps ε^- and ε^+. The results were: $\varepsilon^-_{Cu} \approx \varepsilon^+_{Cu} \approx 0.33$ ev, $\varepsilon^+_{Cu,Co} \approx 0.35$ ev, $\neq \varepsilon^-_{Cu,Co} \approx 0.44$ ev. Since $\varepsilon^+_{Cu,Co} \approx \varepsilon^+_{Cu}$, the deepest hole-capture levels are the same in the ZnS-Cu and ZnS-(Cu,Co) phosphors. Apparently these levels are the unionized glow centers of Cu. The reduction in the luminescence yield outside the "platean" in the case of weak excitation is attributed to the increase in the role of the relatively small amount of particularly deep electron and hole traps, which increase sharply the fraction of the non-radiating recombinations.

Card : 1/1

VINOKUROV, L.A.

B-5

USSR/ Physical Chemistry - Crystals

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7304

Author : Antonov-Romanovskiy, V.V. and Vinokurov, L.A.
Title : Kinetics of Luminescence in the Phosphors ZnS-Cu, Co in the Region in Which the Luminescence yield is Independent of the Intensity of the Exciting Radiation

Orig Pub : Optika i spektroskopiya, 1956, Vol 1, No 1, 71-76

Abstract : In continuing previously published work (RZhKhim, 1957, 3597), the authors have shown that the inequalities of the radiation sums determined from the excitation and extinction curves in the "plateau" region for the phosphor ZnS-(Cu, Co) are related to changes in the distribution of electrons and holes over the occupancy levels lying at varying depths during excitation. The approximate value of the localization energy of the electrons e^- and holes e^+ in the deepest occupancy levels has been estimated from the temperature shift of the "plateau".

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USSR/ Physical Chemictry - Crystals

Abs Jour : Referat Zhur - Khimiya, No 3, 1957, 7304

It was found that $e_{Cu} - e_{Cu}$ ≈ 0.33 ev, $e_{Cu, Co}$ ≈0.35 ev, and Cu, Co e ≈0.44 ev. Inasmuch as $e_{Cu,Co} \; e_{Cu}$, the lowest occupancy levels for holes are the same in the phosphors ZnS-Cu and ZnS-(Cu,Co). Apparently these levels constitute unionized centers of Cu luminescence.

Card 2/2

Vinokurov, L. A.

USSR/Optics - Physical Optics K-5

Abs Jour : Referat Zhur - Fizika, No 5, 1957, 12928

Author : Vinokurov, L.A., Fok. M.V.

Inst : Physics Institute imeni P.N. Lebedev, Academy of Sciences USSR

Title : Extinction of ZnS(Cu, Co) and ZnS(Cu, Ni) Phosphors by Infrared Light.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 2, 248-254

Abstract : Infrared rays act as flashing and extinguishing factors on the phosphors ZnS-(Cu, Co) and ZnS-(Cu, Ni). At a sufficiently large infrared intensity, the brightness of the phosphor I depends on the intensity of excitation E in accordance with the law $I \sim E^{3/2}$. The action of the infrared rays in the afterglow causes extinction that obeys a second-order hyperbola. The usual scheme of

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USSR/Optics - Physical Optics

Abs Jour : Ref Zhur - Fizika, No 5, 1957, 12928

external extinction does not explain these laws, for it gives an exponential attenuation (mono-molecular) extinction and a dependence of I on E in the form I $\sim E^2$. The stationary brightness and the extinction are calculated for the case, when the holes in the valent zone have a greater probability of returning to the activator level, than of recombining with the localized electrons. A formula is obtained to explain the experimentally observed dependence of I on E in the hyperbolic extinctions. On the basis of the same calculation, an explaination is given for the extinguishing action of Co and Ni and it is shown, that if the extinction is not too strong, when the yield is reduced by merely a factor of several times, the dependence of I on E remains linear.

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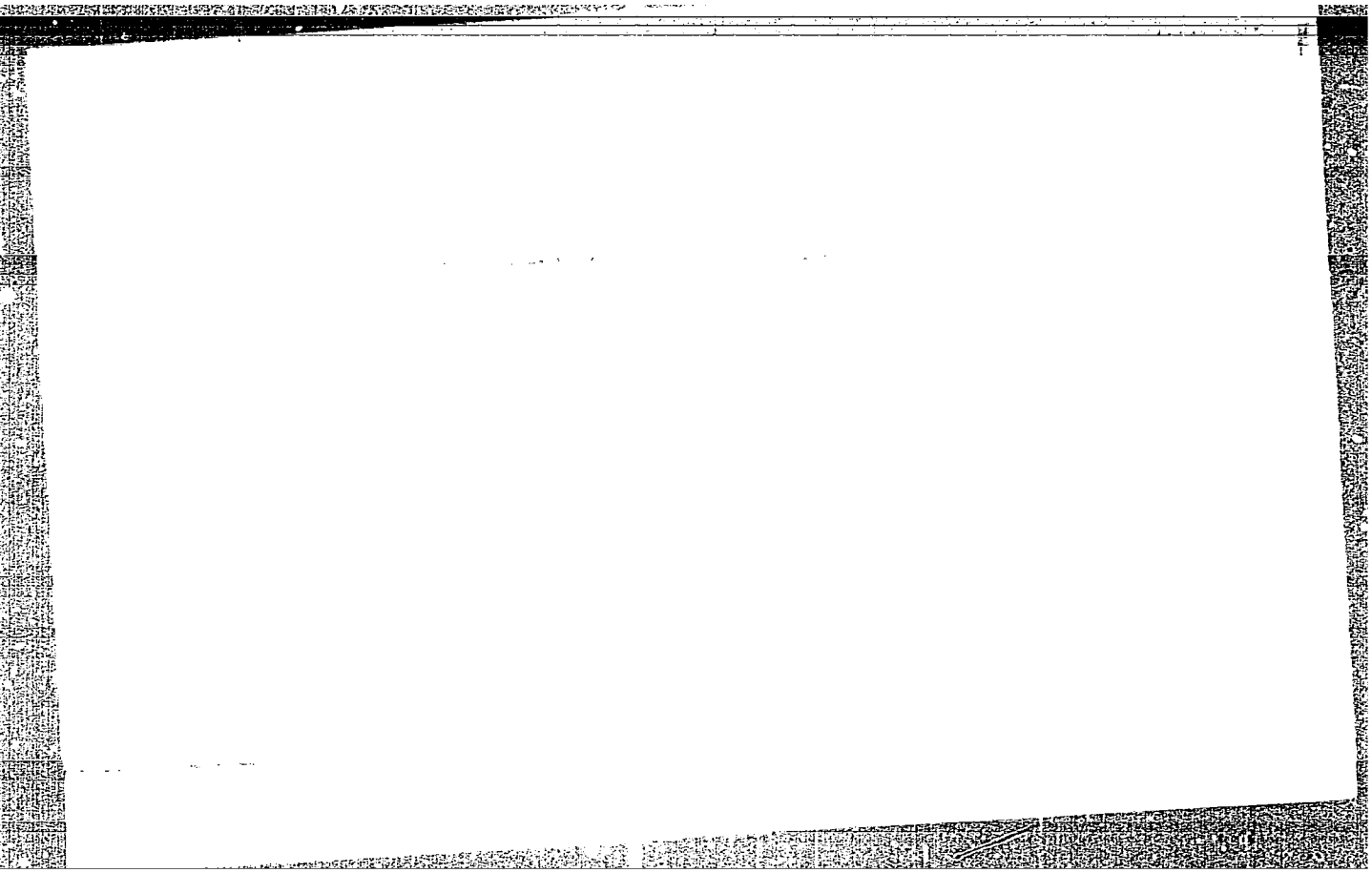

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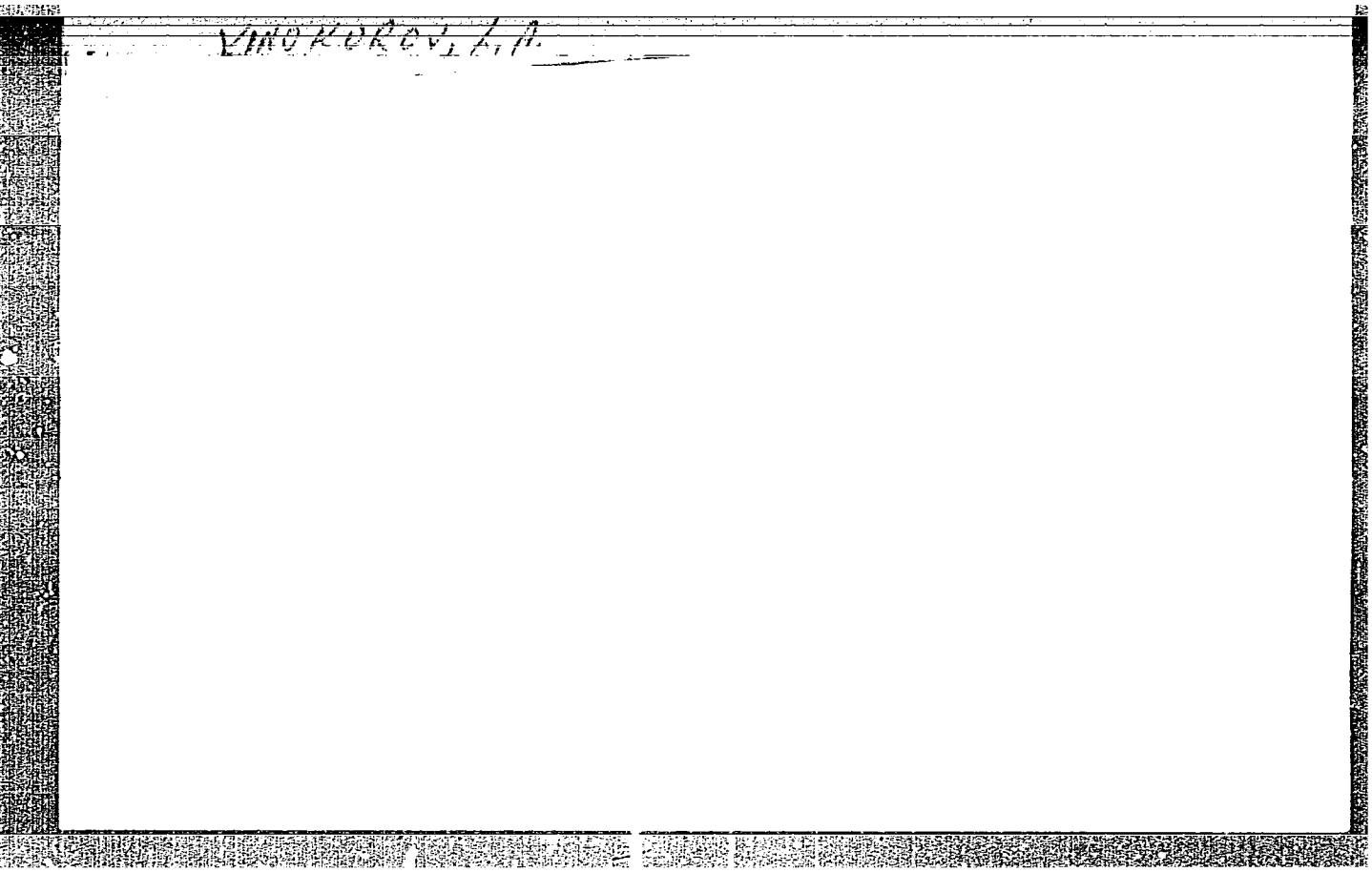

VINOKUROV L.A.

SUBJECT: USSR/Luminescence 48-4-22/48

AUTHORS: Vinokurov L.A. and Fok M.V.

TITLE: On the Quenching of ZnS-Cu, Co and ZnS-Cu, Ni-Phosphors by Infra-Red Light (O tyshenii fosforov ZnS-Cu, Co i ZnS-Cu, Ni infrakrasnym svetom)

PERIODICAL: Izvestiya Akademii Nauk SSSR, Seriya Fizicheskaya, 1957, Vol 21, #4, p 538 (USSR)

ABSTRACT: Infra-red light gives rise to flashes and quenching of ZnS-Cu, Co and ZnS-Cu, Ni phosphors. It was discovered that at the constant intensity of infra-red light the phosphor brightness I depends on excitation intensity E according to the law:

$$I \approx E^{1/2}$$

The action of infra-red light in afterglow leads to the second-order hyperbola decay, instead of an exponential law as in the conventional scheme.

The stationary brightness and decay of the phosphors were calculated for a case when holes in the valence zone have a greater probability to return to luminescent centers than to recombine with localized electrons.

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48-4-22/48

TITLE: On the Quenching of ZnS-Cu, Co- and ZnS-Cu, Ni-Phosphors by Infra-Red Light (O tyshenii fosforov ZnS-Cu, Co i ZnS-Cu, Ni infrakrasnym svetom)

The Co and Ni effects as quenching agents was explained on the basis of these calculations.

The report was followed by a short discussion.
No references are cited.

INSTITUTION: Physical Institute im. Lebedev of the USSR Academy of Sciences

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SUBMITTED: No date indicated

AVAILABLE: At the Library of Congress.

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